

REMARKS

The Rejection Under 35 USC § 112

The incorrect dependency of claim 9 is corrected.

The Rejection Under 35 USC § 103

The Office Action alleges that the claims are obvious over Glausch in view of Schauer.

The only reason provided for the alleged combination is that allegedly both references disclose titanium dioxide and iron oxide. However, such a loose connection is not adequate to one of ordinary skill in the art to consider or combine the teachings of these references. The context of the disclosures of these terms must be considered too as they would be considered by one of ordinary skill in the art. Schauer discloses pigments, where among the disclosed choices various metal oxides are present as pigments. Glausch teaches pearl luster pigments based on platelet shaped particles which are coated with various metal oxides. In Schauer the metal oxides are the pigments, whereas in Glausch the metal oxides are a coating on a substrate. The two types of pigments in these references are distinct and are not comparable pigments at all. Titanium dioxide, for example, is used as a color pigment in plastics or in cosmetics as sun protection, but it is not an effect pigment, and iron oxide is an inorganic color pigment, and it is also not an effect pigment, whereas the pearl luster pigments are effect pigments. Merely both references reciting various metal oxides somewhere in their disclosure is not adequate enough to one of ordinary skill in the art to consider the teachings of these references together. One of ordinary skill in the art would necessarily consider the context of the disclosures of these terms. In context in the present case these terms are different elements of various pigment products, i.e., in one reference the metal oxides per se are the pigments and in the other reference the metal oxides are coatings on pigment particles.

Nevertheless, the following comments are provided.

The present claims are directed to pigments “which are sheathed with one or more layers of immobilised LCST and/or UCST polymer.” (Emphasis added.) The term “sheath” means “A case for a blade, as of a sword. Any of various similar coverings. *Biology* An enveloping tubular structure, such as the base of a grass leaf that surrounds the stem or the tissue that encloses a muscle or nerve fiber. A close-fitting dress. A condom.” See The

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Glausch teaches pigments where the oligomeric silane system is “bound on the pigment surface.” See column 4, lines 23-24. Glausch also teaches that there is “a stable bond between the silane and the pigment surface,” which is due to the presence of silicon-functional hydroxyl groups which form chemical bonds. See column 5, lines 9-12. Thus, Glausch does not teach pigments which are sheathed with an oligomeric silane system, but teaches pigments to which the oligomeric silane system is chemically bound.

Moreover, all the examples of Glausch describe methods of preparation which involve several pH adjustments, e.g., with sodium hydroxide, hydrochloric acid, sulphuric acid. By the addition of the pH adjusting chemicals, undesired impurities are introduced into the pigment dispersion. During the polymerization reaction of the oligomeric silane system, polysiloxanes are built up which are insoluble in the solution and precipitate onto the surface of the pigment. These polysiloxanes are still reactive and anchor via the un-reacted silanol groups with the reactive groups (hydroxyl groups) of the pigment surface. At the same time, unprecipitated single latex particles are still in the solution which cause not only filtration problems, but at the same time these latex particles cannot be completely separated from the surface modified pigments. The latex particles influence the optical properties of the surface modified pigments and cause coating failures in the applications as they produce spots and craters in the final coating.

The above discussed impurities are not introduced into the pigment surface by the preparation methods of the pigments of the present invention, where the coating sheaths the pigment. The LSCT or USCT polymer sheaths the pigment in the pigment dispersion by simply changing of the temperature of the dispersion. Thus, no impurities, e.g., Cl and/or OH anions and/or single latex particles, are introduced into the dispersion by the addition of pH adjusting chemicals when the sheathing LSCT or USCT polymers are formed on the pigment surface. Moreover, during the deposition of the LSCT or USCT polymer on the surface of the pigment, no reaction occurs between the surface of the pigment and the polymer. The immobilization is carried out in the form of cross linking of the polymer on the particle surface, with the polymer being irreversibly immobilized on the particle surface. Moreover, the immobilization can occur after a cleaning and washing step to remove any impurities.

Thus, the pigments of Glausch have a surface bound oligomeric silane system which contains various impurities due to the method of preparation of the described pigments

therein, while the pigments of the present invention have a LSCT or USCT polymer sheathing the pigments, with no or substantially no impurities in the sheathing layer.

One of ordinary skill in the art would not take the teachings of Glausch and combine it with the teachings of Schauer, which is a reference teaching different types of pigments, and a different type of LCST coating system, e.g., one which envelopes the pigment particles, than Glausch.

The claims are also rejected over Winter in view of Glausch.

The discussion of Glausch from above is incorporated herein by reference.

Winter teaches nothing relevant to the claims of the present application. Winter teaches a polymer film which includes among its many components pigments, the identity and type of which is not even mentioned. The polymer film also contains an electro coat primer in adhesion to a metal substrate, a base or color coat, a various film forming binders, a clear coat, a thermally stable benzotriazole US absorber, etc. See column 4, lines 46-67. The polymer films that can be stabilized by the compound disclosed in Winter include a huge list of possible polymers. See column 6, line 29 to column 8, line 45. The Office Action merely picks some disclosed polymers that could be stabilized by the compound disclosed in Winter and picks the separately described polymer film composition which among many things contains pigments, and alleges that the pigments of the present invention would be obvious therefrom when these teachings are combined with Glausch.

Applicants even under the most broad-minded logic, even using hindsight reconstruction, do not see how one of ordinary skill in the art would even put together the claimed invention from the disclosures of these references. If this rejection is maintained, applicants respectfully request a more thorough allegation.

Moreover, the alleged reason for the combination of these references is that both references "disclose common components (polysiloxanes)." This reasoning ignores the teachings of these references and the context of the disclosures regarding polysiloxanes. At this rate any single term could be chosen from any reference and be combined with any other reference which somehow contains said term. That is not a sufficient reason under patent law for an alleged combination. Here, one reference merely lists polysiloxanes as a possible polymer that could be stabilized by a compound of said reference, and the other reference teaches as a pigment which could be coated with polysiloxanes. One of ordinary skill in the

art would and could not have achieved the presently claimed invention from the disclosures of these references.

Reconsideration is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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